



Research on the Development Status, Problems and Countermeasures of Sports and Fitness APPs

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Abstract

Objective To study the increasing use of sports and fitness APPs against the background of national fitness and post-epidemic era, and to provide some suggestions for the development of sports and fitness APPs. **Methods** Literature survey and mathematical statistics were used to define the concept of sports and fitness APPs, and their characteristics and advantages were investigated. Then, their problems were pointed out. **Results and Conclusion** The existing problems include some APPs favoring female users, single function, and slightly backward profit model. Some countermeasures such as enriching course types, taking into account all categories of users, expanding more functions, improving service quality, broadening profit channels, and improving marketing level are put forward. This can provide theoretical basis for the operation of sports and fitness APPs and better popularize the culture of national fitness.

Keywords: sports and fitness; APP; fitness

With the booming development of modern technology, mobile software applications (APPs) have attracted more attention in enterprises, education and medical care. The development and application of mobile APPs facilitate people's clothing, food, housing and transportation^[1]. In early 2020, the General Administration of Sports of China issued the "Notice on Vigorously Promoting Scientific Fitness at Home", which actively guided the public to exercise at home and highlighted the importance of using various media to promote the scientific fitness^[2]. With

the normalization of the prevention and control of the pandemic, online fitness, which is not constrained by time and space, is more popular in China. In the post-epidemic era, people spending more time at home has enhanced their understanding of exercise to keep healthy to some extent^[3]. People's urgent concern for health will greatly stimulate their enthusiasm to participate in fitness and exercise^[4]. In this context, the sudden popularity of Liu Genghong fitness live broadcast pushed national fitness to a new climax^[5]. Meanwhile, some sports and fitness APPs were downloaded continuously, and online fitness became more popular. After studying the advantages and problems of sports and fitness APPs, we proposed some reasonable solutions and countermeasures to promote the development of sports and fitness APPs, which could improve scientific fitness for all people.

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1 Definition of sports and fitness APPs

An APP is the abbreviation of application, which refers to the third-party application applied to mobile terminals (e.g., smartphones, tablets, wearable devices, etc.) [6]. At present, there are no papers on the study of sports and fitness APPs in China, and the research results including academic papers are relatively lack of scientific and reasonable evaluation and classification standards. In addition, the research results are fragmented. Therefore, there is no unified definition of sports and fitness APPs. Nowadays, the common sports and fitness APPs on the market include Keep, Yuedong, Codoon, Huawei Health, Joyrun, Zepp

Life, and FitAPP. By browsing App store and Android App store, combined with the basic information of each APP provided by other data, this study classifies the common APPs into different categories according to different criteria (Table 1). In this paper, exercise and fitness APPs are applications that have the functions of recording exercise trajectories, presenting physiological data statistically, guiding exercise programs, customizing training plans, and leading healthy lifestyles [6, 7]. It should be emphasized that the sports and fitness APPs in this study do not include such content as sports news games, medical aesthetics, health care, diet guidance, and sleep tracking.

Table 1 Classification of sports and health APPs

Classification criteria	Type	Examples of APPs
User requirements	Recording class	Ledongli, Meikejibu
	Guidance class	Keep, Daily Yoga
	O2O class	Xiaoxiong Kuaipao
Whether to bind to the hardware side	With hardware side binding	Nike + Running, FitAPP
	Without hardware binding	Shoushen Jihua
Free download or not	Free download	Huawei Health, Codoon
	Paid download	Fitnex, Yao Yao

Source from: Diandian Data.

2 Features and advantages

2.1 Convenience and no restrictions of space and location

The team at Keep has positioned the platform from the beginning on three main pivot points: Basic, standardized, and mobile. The basic represents lightness, and mobile represents anytime and anywhere. You can carry a cell phone to exercise and record data at any time. If you wear wearable devices, the data can be more accurate. Daily records can be used to check progress, compare data and make exercise plans later. According to the data published by Bigdata-Research 2021, from the users' age structure of sports and fitness APPs, the majority of the population is about 35 or less, accounting for

70%. Since this population is mostly busy with their work and study tasks in their daily time, the portable and mobile features have great appeal to them. In the busy study and work time, using fragmented time to exercise has gradually become one of the modern young people's habits to relieve their pressure.

2.2 Low cost

According to the data published by Zhiyan Consulting, the size of China's online fitness market accounted for 47% of the total fitness market in 2021, an increase of 3.01% compared to that in 2020. Besides, the offline fitness population is gradually transforming to online fitness with growing active users. After the pandemic, "consumption degradation"



has gradually become the consensus of everyone. Sports and fitness are the most likely consumption items to be cut in the economic downturn if they are costly. Compared to offline fitness, the cost of using sports and fitness APPs is small, and the average price of applications does not exceed 20 yuan. And free applications within the purchase mode (free applications but special features charge) is also not the necessary consumption for users. Therefore, using a sports and fitness App to keep up with fitness training habit is a good option.

2.3 Strong interactive and social attributes

Keeping fit is not the only reason why users choose to use this type of APPs. In recent years, the positive influence of social function of life service Apps on users remains high. Many users socialize in this way. They punch cards, share their exercise plans, data and tips to make friends in the community^[8]. Whether it is out of bragging or other reasons, people can get satisfaction from this function and they will be more active in exercise and fitness. Nowadays, “social phobia” has become a common problem among young people. However, these people can share their lives without pressure through cell phones. For the “social phobia” people, they can exercise through the APPs to lose weight. At the same time, they can easily socialize with other people. Compared with offline sports and fitness behavior, this way is more likely to become their choice.

3 Problems in the use of sports and fitness APPs

3.1 Applications favoring female users

At present, among all the courses in the sports and fitness Apps, most courses are for female users. In the course ranking, the top categories of popular courses include leg training, back training, and weight loss set for women.

According to the statistical results of Aurora Mobile, as of June of 2022, the percentage of

female users in fitness and sports apps was 61.6%, while the percentage of male users was 38.4%. The proportion of female users has maintained at about 60%. However, in the current gender distribution of China’s sports and fitness population, men are more than women, at 59.8%. In the context of “national fitness”, men’s demands for weight loss and shaping are increasing. To get more market share, male groups are the potential users for sports and fitness APPs. Therefore, these Apps should increase the training courses for male users and improve their stickiness. In the survey of the age distribution of users, it was found that 25–44 years old accounted for more than 70%, young people were the main force of sports and fitness. The age structure and level of users in the post-epidemic era is also changing. In the curriculum, we can also take the middle-aged and elderly groups into account to set up health and fitness courses for them, which can enrich and broaden the curriculum.

3.2 Single function of some APPs

There are a large number of sports and fitness APPs in the market, but the functions of some APPs are single. In this paper, according to the download ranking of applications and their rate of use, we selected four APPs, namely, Keep, Yuedong, Godoon and Huawei Health, and listed their special functions (Table 2). Among the sports and fitness APPs on the market, Keep is a comprehensive APP with some basic functions such as recording exercise data and monitoring body indicators, providing personalized fitness plans, guidance on healthy diet, and online shopping. Godoon is also one of the most popular sports and fitness APPs on the market. It created the first online marathon and cycling competitions, increasing the fun and immersion of users. There are still many sports and fitness APPs with a single function. For instance, Zepp Life was launched in 2014, which focused mainly on sports and data indicator monitoring. However, when users apply sports and fitness APPs, they often want to experience a variety of senses. So, the basic function of the introduction is not enough to attract more users,



which cannot increase user stickiness. If users want to experience more functions, they have to download

other APPs, which to a certain extent reduces the user’s trust and satisfaction.

Table 2 Functional analysis of sports and fitness APPs

	Keep	Yuedong	Codoon	Huawei Health
Item	All-round sports knowledge guidance and recording	Yue sports, Yue health	200 million people are using the running fitness Apps	24/7 Sports Health Manager
Latest version	7.36.0	5.15.0	10.3.0	13.0.0.315
Frequency of version updates	1.8 times/week	1.5 times/week	2.6 times/week	2.7 times/week
Current rating on App market	4.9	4.9	4.9	4.6
Featured function	Tailor-made, multiple fitness training options; Simultaneous training with real people; Accurate running records; Share fitness results	Multiple recording modes, accurate data; Red packet challenge, double incentive; Scientific running strategy; Tailor-made, targeted and efficient training	Intelligent equipment management; Professional sports community forum; Huge number of running team activities; Running popular IP races	Blood pressure, weight and other health indicators management; Free from the restrictions of time, place and equipment, anytime, anywhere fitness with bare hands; Abundant online activities and exercise health consultation

3.3 Profit model lagging behind

At present, there are four ways to profit from sports and fitness APPs: Paid applications, in-purchase model, advertising fees and brand promotion of sports manufacturers. Among them, the main profit methods are paid applications and advertising fees [6]. Nowadays, most sports and fitness APPs on the market are free download applications, and only 10% of the global users use paid APPs and the proportion has a decreasing trend year by year. Therefore, even if the paid sports and fitness app is popular, it is inevitable to lose potential users. Some users have needs for professional and targeted guidance, they pay for fitness courses in the APPs. However, due to the space constraints, there is still a gap between the effect and offline guidance. Users are more dependent on free features while applying these APPs. For the profitable way of advertising implantation, it not only requires that this APP already has a large number of users, but also it has to control the quantity and quality of advertising. Otherwise, it is easy to spoil the user’s

perception and experience.

4 Countermeasures

4.1 Enriching the types of courses and accommodating all users

In the context of the advocacy of national fitness, more residents are actively taking part in sports and fitness. Therefore, the post-epidemic era brings new opportunities for sports and fitness industry. Sports and health APPs should attract more new users and help them to develop the habit of using such APPs. These APPs should be user-centered to enrich the types of courses, such as adding courses for middle-aged and elderly groups. Besides, they should increase the proportion of courses for men’s strength training. Relying on user portraits, they can improve users experience in a targeted manner and meet their needs [9]. By continuously enriching and improving the existing functions and services, these APPs can convert more non-users into users who will apply



APPs with high-frequency.

4.2 Expanding the existing functions and improving service quality

We should optimize the design of the sports and fitness APPs to enrich the user experience. For courses, we can add live courses based on recording with practice courses. At the same time, we can add social functions to these APPs, building an interactive community for users, and realizing instant sharing of sports and fitness experience. The online shopping mall mode can provide convenience for the public, which also widens the profit channel. Then, we can set the card function to solve the second layer of user needs, which will help users to develop habits and present the progress of goal completion. Sharing the progress to the community can also give users a certain degree of satisfaction, which can allow more users to urge themselves to stick to exercise and fitness^[10]. Not only do they take into account the sports monitoring function, they also satisfy people's social needs. In addition, sports and fitness APPs can depend on the manufacturer hardware technology to some extent. These APPS can be developed with the successful development of products and devices such as smart wearable gadgets, gyroscopes, acceleration sensors. In addition, the functions of sports and fitness APPs can become more abundant^[7]. Therefore, the development and upgrading of hardware is also the top priority in the work of enriching APP functions.

4.3 Broadening profit channels and improving marketing level

We should seize people's increasing demand for various information and their desire for professional classified ads to develop the classified ad market^[11]. APPs with a large number of users can consider opening offline gyms and organizing offline activities. The paid APPs should strengthen their original service level, providing more unique and professional high-quality services. Besides, they also can consider

appropriate price reduction to attract users. By creating inexpensive and high-quality products, we can enhance their reputation among sports and fitness users.

In-APP purchase revenue mode has become the mainstream, and it will be the main form of profit for future sports and fitness APPs. Therefore, improving the level of in-APP purchase service and guiding users to purchase is worthy of key consideration by the operation team. They can attract users' interest through descriptions, previewing videos, free of charge to promote users' desire to buy.

5 Conclusion

Under the background of national fitness and post-epidemic era, exercise and fitness has become an indispensable part of residents' lives. Sports and fitness industry has also risen to the level of national strategy^[12]. Compared with other industries, sports and fitness APPs are still a new industry with a large development space and potential. After identifying the their advantages and problems, we can continuously optimize and upgrade these products. As for all users, we should expand functions and broaden profit channels, thus improving the quality of services and providing more quality resources for the public.

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